

Study the Correlation Coefficient Spearman Brown on Cancer Patients Depending on the Test for the Beck Depression

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Abstract

We will provide in this research a scientific study on patients with cancer of the Central Euphrates provinces (Samawah, Dhi Qar, Qadisiyah, Najaf, Karbala, Babil, Kut) and enrolled in the center of tumors to Morgan Specialist Hospital in the province of Babylon during the 2012 where it was applied Beck test for depression, and consisting of 21 questions shown in a simple and concise understood by the patient. Aim of this study is to test the possibility of the presence or absence of a relationship between depression and cancer. The questionnaire results were analyzed through the Spearman correlation coefficient analysis and correlation Brown record.

Keywords: depression, cancer, correlation analysis and Spearman correlation coefficient Brown.

1.Introduction

Still most of the communities rejects the idea of a mentally ill or mentally with the person of its members and may exclude up to talk about his condition and the extent of the deterioration of his health, and stems this ideation from lack of recognition of truth and reality in such cases, or the permit clearly the existence of a patient needs to aid or assistance of Psychologists and specialists in this area the treatment of psychiatric and mental health. It is the most important diseases and mental disorders prevalent at the moment is a mood disorder or depression, or what is called, and is one of the most prevalent psychiatric and common at the moment and scientific studies confirm the high incidence in the future (Abakah 2012).

The depression of the diseases associated with the progress of civilization and the acceleration of life associated with them, he is a teacher of landmarks afflicted by everyone, men and women does not exempt one .. and I showed some of the studies, the World Health Organization about the disease of depression in the world that there are more than 100 million people suffer from depression 2006 (Aasal, 2006). So take the depression extends from the base of the temporal and grow in communities from generation to generation, because contemporary life where a lot of complications and that negatively affect a very traditional way of life of a person within the class of those possibilities that increase stress self and discomfort and lack of contentment person for his life and then he felt isolation (Shakshak 2007).

Depression known as a state of extreme sadness and continuous so that it looks like a person in mourning lasting (Shakshak 2001), or the response is raised painful incident failure in a relationship or disappointment or loss of something important such as work or the death of Important (Shakshak 2007). As well as self-refraction of the severity of worry and sadness (Khatib, 2008).

As for cancer, it is abnormal cells arise as a result of oxidative stress, which leads to an imbalance in the proteins and genes (DNA), which is one of the parts very delicate and responsible for the properties of the organism, and genes are the place where to store all the information about the processes and chemical reactions various vital that occur within organisms and genes are very important in terms of the location of a series of DNA, whether or chromosomal location of the cell. When something goes wrong in the formation of chromosomes, which contain the nucleus in these cells or in the number and distribution of genes in the chromosomes consists cancer by gathering cancerous cells (damaged) in the body in one place on the body tumor (Al-shurfaa 2008).

We will provide in this research a scientific study on patients with different types of cancer and arrivals from the provinces of the Middle Euphrates (Samawah, Dhi Qar, Qadisiyah, Najaf, Karbala, Babil, Kut) to the center of tumors in hospital Morgan Specialist in Babil province, totaling (250) patients during the year 2012 where the test was conducted on patients myself relying on Beck test for depression, through the distribution of a questionnaire containing 21 questions are shown simple and understood by the patient accompanied.

Objective of the study is to test (the presence or absence of) the relationship between depression and cancer. This has to answer to the questionnaire through (100) patients only, the results were analyzed by standard correlation analysis and Spearman correlation coefficient Brown.

2. moad and ways of working

First, the correlation coefficient for Spearman - Brown

Coefficient of rank correlation (Rank Correlation Coefficient), this parameter defines a factor of Spearman correlation (Spearman) or coefficient of rank correlation (original values and not the values) and therefore vary the value of the value of coefficient of Pearson (for the values of the original and not arranged) and deals with digital data and digital to arrange such good, very good, ... and has the symbol r_s within a non-parametric statistics with free distribution and positive value less than or equal to one calculates the correct value of the mathematical formula note that:

$$r_s = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

Where d difference between arranged according to the first variable x and ranks as the second variable y (the difference between the Order values for each pair of data) In the case of equality takes the arithmetic mean (If the two values are equal grades 7.8 takes an average 7.8 and become ranks each 7.5 instead about 7, 8), n the number of pairs of values if we had a group of individuals have been ranking by two traits of each individual group x, y , the $d_i = x_i - y_i$.

Second, the correlation coefficient index

Test the extent of the moral r (value medium and not zero or ± 1) and when the sample size is greater than and less than 30 (small), compare it with the calculated from the table when the $\alpha / 2$ and when the sample size is greater than or equal to 30 present value of Z and compare it with the spreadsheet where the value of $Z = \text{rank correlation coefficient value multiplied by the square root of the number } n - 1$.

Considering that this community dimensions X, Y and taken him to the sample of couples ranked Assuming that ρ correlation coefficient r community shall be an estimate of the coefficient ρ . It must be assumed that the $\rho = 0$ to get the association probability (r) according to the theory:

All samples of size n and possible taken from the community and two-dimensional distribution is subject to moderate its association coefficient $\rho = 0$, and r expresses the transactions that links the samples:

$$t = \frac{r}{\sqrt{(1 - r^2)(n - 2)}}$$

T-distribution is subject to varying freedom $n - 2$.

Third: Aaron T Beck questionnaire for depression (BDI)

This is called the Beck depression of a global psychological tests is very important. Standardized and scientifically, is intended to diagnose depression in people or not.

3. Resulte and discussion

Been applied to test the BDI on a sample of adults (males and females) and infected tumors and arrivals from the provinces of the Middle Euphrates (Samawah, Nasiriyah, Diwaniyah, Najaf, Karbala, Babil, Kut) to the center of tumors / Middle Euphrates in Babylon province during 2012.

Beck BDI questionnaire was distributed to a sample of (100) of infected males and females. Where the vocabulary of the questionnaire was read to them and clarify them and then answer each question and how to answer the test form.

Then collected the forms have been corrected and calculated correction keys and extract every degree form and then evaluated according to the values of the original test. Any account the degree of each form for each unexamined and extract Rated by ladder assessments of the original test. In order to extract the correlation coefficient stability test is fragmented into two halves paragraphs (individually, my husband) in order to apply the sequential correlation coefficient appropriate for such tests, and the calculation of scores for each answer halves of the test and then apply the law of the correlation coefficient.

The result of the correlation coefficient of 0.89, a test very high correlation coefficient indication statistically significant, indicating where the sensitivity of the test and its ability to measurement. After that, the equation of Brown Spearman correlation equation to extract a correlation coefficient of 0.94. The correlation coefficient is also highly statistically significant indication very good. When comparing the degree of stability of the scale with degrees of consistency original test shows that there is no difference between them, a clear indication that the test did not lose its sensitivity and its ability to measure something, and has remained on the characteristics of the original in the possibility of measuring the characteristics of the qualities that put created.

Table: the research community by conservative newcomer to the center of the patient tumors

Female	male	City
10	7	Diwaniyah
7	9	Najaf
6	6	Kut
6	4	Nasiriyah
5	3	Samawah
9	7	Karbala
9	12	Babil

Table: Table represents the type of cancer and the number of patients infected

the number of patients	cancers of the sample under study	ت
21	breast cancer	1
7	leukemia	2
6	cancer of the liver and pancreas	3
13	colon cancer	4
6	skin cancer	5
18	Lymphoma	6
5	lung cancer	7
7	cancer of the stomach and esophagus	8
9	Bone Cancer	9
8	other cancers	10

Table: Classification of males and females in terms of the application of the test BDI :

female	male	Sorted by testing
2	2	Normally
11	19	depression Simple
19	17	Moderate depression
20	10	Severe depression

Table: Prevalence of depression among subjects (males and females) in terms of the application of the test BDI

Females	Males	proportion of depression
%96	%95	Simple to severe depression
%75	%56	Depression requiring psychiatric treatment

Table: Number and percentage of presence and the ability of suicidal tendencies in patients with tumors applying the test BDI

Female	male	Item
-	-	Has not carried out suicidal thoughts
2	-	Would like to commit suicide
2	-	Commits suicide that he had the opportunity
%4	-	The proportion of actual ability to commit suicide
%4	-	The proportion of suicidal tendencies

4. Conclusions

- 1) There is an indication exists a real depression in patients with cancer and tumors enrolled in the center of tumors in Morgan Hospital education in the province of Babylon. Where the ratio of index depression among males infected is 95%. The proportion of females are 96%, which is a very high percentage and dangerous.
- 2) the ratio of males depression who need psychological treatment to 56% and the proportion of female depression females who need to address the psychological 75%.
- 3) There is no inclination or ability suicide when depressed male patients.
- 4) no suicidal tendencies when depression females increased by 4% and the actual ability to commit suicide when females by 4% meaning that this percentage represents those who have a genuine desire to commit suicide has been losing them that did not offer them a helping hand. So in this research shows that females are more willing to commit suicide than males.

5. Recommendations

- A. Need to find centers and government departments for social welfare to support patients with depression and other psychiatric illnesses, materially and morally, socially and educationally.
- B. The necessity of creating institutions and centers extension and rehabilitation to reduce the severity and impact of psychological stress the many psychiatric patients and finding solutions available physically, socially and medically to reduce mental illness .. as well as follow-up mental state in general and depression in particular, whether it is for patients with incurable diseases or chronic.
- C. Need to find educational programs and educational staff in government departments and students all about how to deal with patients with depression to help them socially and educationally and healthy less effort at educational institutions in collaboration with specialists, researchers and counselors, doctors, and find ways to families living with mental illness on how to handle and promote trust with the patient's psychological.

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Date: _____

Name: _____ Marital Status: _____ Age: _____ Sex: _____

Occupation: _____ Education: _____

This questionnaire consists of 21 groups of statements. After reading each group of statements carefully, circle the number (0, 1, 2 or 3) next to the one statement in each group which best describes the way you have been feeling the past week, including today. If several statements within a group seem to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

- | | |
|---|--|
| <p>1 " I do not feel sad.
1 I feel sad.
2 I am sad all the time and I can't snap out of it.
3 I am so sad or unhappy that I can't stand it.</p> <p>2 " I am not particularly discouraged about the future.
1 I feel discouraged about the future.
2 I feel I have nothing to look forward to.
3 I feel that the future is hopeless and that things cannot improve.</p> <p>3 " I do not feel like a failure.
1 I feel I have failed more than the average person.
2 As I look back on my life, all I can see is a lot of failures.
3 I feel I am a complete failure as a person.</p> <p>4 " I get as much satisfaction out of things as I used to.
1 I don't enjoy things the way I used to.
2 I don't get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.</p> <p>5 " I don't feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.</p> <p>6 " I don't feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.</p> <p>7 " I don't feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.</p> | <p>8 " I don't feel I am any worse than anybody else.
1 I am critical of myself for my weaknesses or mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.</p> <p>9 " I don't have any thoughts of killing myself.
1 I have thoughts of killing myself, but I would not carry them out.
2 I would like to kill myself.
3 I would kill myself if I had the chance.</p> <p>10 " I don't cry any more than usual.
1 I cry more now than I used to.
2 I cry all the time now.
3 I used to be able to cry, but now I can't cry even though I want to.</p> <p>11 " I am no more irritated now than I ever am.
1 I get annoyed or irritated more easily than I used to.
2 I feel irritated all the time now.
3 I don't get irritated at all by the things that used to irritate me.</p> <p>12 " I have not lost interest in other people.
1 I am less interested in other people than I used to be.
2 I have lost most of my interest in other people.
3 I have lost all of my interest in other people.</p> <p>13 " I make decisions about as well as I ever could.
1 I put off making decisions more than I used to.
2 I have greater difficulty in making decisions than before.
3 I can't make decisions at all anymore.</p> |
|---|--|

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		Subtotal Page 1	
		Total Score	
14	<input type="radio"/> I don't feel I look any worse than I used to. <input type="radio"/> I am worried that I am looking old or unattractive. <input type="radio"/> I feel that there are permanent changes in my appearance that make me look unattractive. <input type="radio"/> I believe that I look ugly.	19	<input type="radio"/> I haven't lost much weight, if any, lately. <input type="radio"/> I have lost more than 5 pounds. <input type="radio"/> I have lost more than 10 pounds. <input type="radio"/> I have lost more than 15 pounds.
15	<input type="radio"/> I can work about as well as before. <input type="radio"/> It takes an extra effort to get started at doing something. <input type="radio"/> I have to push myself very hard to do anything. <input type="radio"/> I can't do any work at all.	I am purposely trying to lose weight by eating less. Yes _____ No _____	
16	<input type="radio"/> I can sleep as well as usual. <input type="radio"/> I don't sleep as well as I used to. <input type="radio"/> I wake up 1-2 hours earlier than usual and find it hard to get back to sleep. <input type="radio"/> I wake up several hours earlier than I used to and cannot get back to sleep.	TPC 0528-003 29 30 A C D E 20 <input type="radio"/> I am no more worried about my health than usual. <input type="radio"/> I am worried about physical problems such as aches and pains; or upset stomach; or constipation. <input type="radio"/> I am very worried about physical problems and it's hard to think of much else. <input type="radio"/> I am so worried about my physical problems that I cannot think about anything else.	
17	<input type="radio"/> I don't get more tired than usual. <input type="radio"/> I get tired more easily than I used to. <input type="radio"/> I get tired from doing almost anything. <input type="radio"/> I am too tired to do anything.	21	<input type="radio"/> I have not noticed any recent change in my interest in sex. <input type="radio"/> I am less interested in sex than I used to be. <input type="radio"/> I am much less interested in sex now. <input type="radio"/> I have lost interest in sex completely.
18	<input type="radio"/> My appetite is no worse than usual. <input type="radio"/> My appetite is not as good as it used to be. <input type="radio"/> My appetite is much worse now. <input type="radio"/> I have no appetite at all anymore.		

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